

*Memo in OX*

February 16, 1961

Dear Gene:

In line with our conferences on February 9 and 10, I submit the following tentative cost estimates and schedules for equipment needed in connection with the C triple prime program.

A. One prototype low distortion high resolution continuous printer. This embodies the new concept of a traveling flat bed at the printing gate and the use of air pressure instead of tension to put the films in contact. We have done a fair amount of thinking about the problem, but acknowledge that we haven't gone beyond the thinking stage. Admittedly, it is a gamble. However, Bob M. and Dutch say that the capability of the Intelligence Community for handling high resolution photography is restricted at this time to 70mm width, so I think it is essential that we attempt to provide a one to one high quality print and the amount of material dictates a fairly high speed continuous type of printer. Furthermore, the requirement for such performance will be with us shortly in OX and what we learn here will be applicable then.

B. One prototype three (approximately) times continuous enlarging printer of the optical bridge type. We are suggesting that one of these be fabricated simultaneously with A above as a backup. The term "backup" is used advisedly since, while it may not give the Community exactly what it wants, it will provide an acceptable product in usable form - approximately 45 lines per mm on 9", or slightly better than the average of the present B photography. In our opinion it doesn't require any "giant steps" in development but is more a matter of careful design and painstaking manufacture. Again we feel that the principle will be of value for the exploitation of future systems.

C. We also suggest that we take a third approach which is relatively simple and entails only a minimum of engineering. This is to build a modified version of our present 70mm printers. The chief changes would be an appreciably larger printing drum, automatic tension control, and a point light source. This would provide the quick scan capability that Bob suggests for the first approach which might be an improvement over what we can furnish now.

D. One reversing processor for duplicate film. We have discussed this problem and feel that there should be no

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insurmountable obstacles in the way of a successful 9½" wide version for aerial film based on familiar motion picture principles. There undoubtedly will be considerable experimentation necessary to determine the proper chemistry and films to be used, and we would propose to design the processor so as to be very flexible. The Research Labs have agreed to immediately begin to analyze available films to determine the best for this use, to recommend chemistry and, if necessary, to undertake to develop a suitable film.

A successful processor of this type would minimize many problems. It provides the various customers with the ability to make dupe positives that are one generation closer to the original than they receive at present. In fact, in combination with the printers above, it might permit all customers to work from positives made from this reversed dupe negative and thus conserve the original negative. With the continual trend toward high resolution and small scale, all possible precautions should be taken to preserve this original for the most painstaking exploitation.

K. While not immediately applicable to the C triple prime, there are two other items I am quoting on now because of the time scale involved in their development and because they will be required for OK. These are the turnaround printer and the 10-20-40X all purpose enlarger. We have published rather complete tentative specifications on these so I won't repeat this information here. However, I would like to reiterate that the turnaround printer (concept represents, in our opinion, the best way to provide an acceptable, usable and logically arranged product from the more peculiar camera systems being offered today. On the other hand, we thoroughly appreciate that the concept is a difficult one to execute and that it may generate several ulcers.

F. The 10-20-40X enlarger for 9½" and smaller films is being offered based on experience with the advantages and drawbacks of the present 20X. We suggest that it provides the most versatile piece of equipment available for high quality enlargement of the product from any of the various camera systems under consideration.

As you know, we have submitted several other ideas for equipment and have offered to study other problems for which either the solutions are not known or for which the desired results have not been specified. We would be pleased to re-examine and re-submit estimates on any items of interest to you either as units or in quantity.

Approximate prices and tentative delivery schedules for the items specifically mentioned above are listed on the attached tabulation. With the exception of item G and, to some extent, F they all represent true development items. We are submitting these

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estimates and schedules in advance of all design work and while the figures represent our best judgment at this time, we would prefer to do the work on a time and material basis.

KLA/MS

cc: A.B.S.  
J.L.B.  
L.E.W.✓  
B.L.E.  
F.C.P.

R. L. G.

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